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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/930,800	08/15/2001	Gordon James Yorke	OR02-13201	3560
22835	7590	08/23/2004	EXAMINER	
PARK, VAUGHAN & FLEMING LLP			LEROUX, ETIENNE PIERRE	
508 SECOND STREET				
SUITE 201			ART UNIT	
DAVIS, CA 95616			2171	

DATE MAILED: 08/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/930,800	Applicant(s) YORKE, GORDON JAMES	
	Examiner Etienne P LeRoux	Art Unit 2171	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 May 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: |

Request for Continued Examination

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 6/18/2004 has been entered.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-18 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claim 1 recites “receiving bi-directional relationship information indicating interrelation between objects having one or more bi-directional relationships” and furthermore “proxy objects have knowledge regarding a host object to which it belongs and one or more peer objects with which the host relates through a bi-directional relationship.” One of ordinary skill in the art would not know how to make and use the claimed invention because:

- 1) The relationship (if any) between “objects,” “host object” and “peer object” is unclear.
- 2) It is unclear whether the “proxy object” **belongs** to the peer object.

Claim 1 recites “receiving a new peer value to be set in a selected object relating to a bi-directional relationship.” One of ordinary skill in the art would not be able to make and use the invention because it is unclear how:

1) A selected object relates to “objects,” “host object,” “peer object” and proxy object.”

Claim 1 recites “determining, using one or more of the proxy objects, a new peer value to be set for a peer object which has the bi-directional relationship with the selected object.” One of ordinary skill in the art would not be able to make and use the invention because it is unclear whether the “new peer value” for the selected object is the same as the “new peer value” for the peer object.

Claim 1 recites “wherein the bi-directional relationship is managed so that pairs of corresponding bi-directional pointers get updated together.” One of ordinary skill in the art would not be able to make and use the invention because it is unclear to what the pair of directional pointers are pointing to.

Claims 2-18 are rejected for being dependent from a rejected base claim.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites “setting the new peer value in a proxy object created for the peer object so that an associated new peer object has a bi-directional relationship.” The antecedent basis for

Art Unit: 2171

“the new peer value” is unclear. In particular, is it the “the new peer value associated with the selected object or the new peer value associated with the proxy object?

Claim 1 recites “wherein the bi-directional relationship is managed so that pairs of corresponding bi-directional pointers get updated together.” The antecedent basis for “the bi-directional relationship” is difficult to determine. In particular, is it the bi-directional relationship associated with 1) objects?, 2) proxy objects? 3) selected object?, or 4) peer object?

Claims 2-18 are rejected for being dependent from a rejected base claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-12 and 14-18 are rejected under 35 U.S.C. 102(b) as being anticipated by US Pat No 5,956,509 issued to Kevner (hereafter Kevner).

Claim 1:

Kevner discloses:

- receiving bi-directional relationship information indicating interrelation between objects having one or more bi-directional relationships [Fig 5, 400, 410, col 6, lines 39-53]
- creating proxy objects [Fig 5, 404] based on the bi-directional relationship information for selected bi-directional relationship objects having bi-directional relationships,

Art Unit: 2171

wherein the proxy objects have knowledge regarding a host object to which it belongs and one or more peer objects with which the host relates through a bi-directional relationship

- receiving a new peer value to be set in a selected object relating to a bi-directional relationship [main MOS object includes a list of pointers, col 14, lines 13-22]
- determining, using one or more of the proxy objects, a new peer value to be set for a peer object which has the bi-directional relationship with the selected object; [interface object includes a list of pointers, col 14, lines 13-22]
- setting the new peer value in a proxy object created for the peer object so that an associated new peer object has a bi-directional relationship with the peer object without a developer of the object model having to ensure all associated references are maintained [interface object includes a list of pointers, col 14, lines 13-22]
- wherein the bi-directional relationship is managed so that pairs of corresponding bi-directional pointers get updated together [interface object includes a list of pointers, col 14, lines 13-22]

Claim 2:

Kevner discloses receiving object model meta-data defining relationships [list of pointers, col 14, lines 12-21] between objects in the object model; and retrieving reference value information that represents reference values indicating current peer objects for the bi-directional relationships

Claim 3:

Kevner discloses wherein the bi-directional relationship information receiving step receives the reference value information from a data storage in which data corresponding to the objects is stored [main MOS object includes a list of pointers, col 14, lines 13-22]

Claim 4:

Kevner discloses wherein the bi-directional relationship information receiving step receives the reference value information from a new object that is newly created by a user [inherent in main MOS object includes a list of pointers, col 14, lines 13-22]

Claim 5:

Kevner discloses wherein the bi-directional relationship information receiving step receives the reference value information that includes a collection of reference values for a bi-directional relationship object which references many peer objects [inherent in main MOS object includes a list of pointers, col 14, lines 13-22]

Claim 6:

Kevner discloses wherein the proxy object creating step creates proxy objects of unidirectional peer relationships that combined comprise bi-directional relationships [Fig 5, 400, 410, col 6, lines 39-53]

Claim 7:

Kevner discloses wherein the proxy object creating step creates a proxy object for each of a pair of one-to-one unidirectional peer relationships that form a one-to-one bi-directional relationship [Fig 5, 400, 410, col 6, lines 39-53]

Claim 8:

Art Unit: 2171

Kevner discloses wherein the proxy object creating step creates a proxy object for each of a one-to-many unidirectional peer relationship and one-to-one unidirectional peer relationships that form a one-to-many bi-directional relationship [Fig 5, 400, 410, col 6, lines 39-53].

Claim 9:

Kevner discloses wherein the proxy object creating step creates a proxy object for each of uni-directional one-to-many peer relationships that form a many-to-many bi-directional relationship [Fig 5, 400, 410, col 6, lines 39-53]

Claim 10:

Kevner discloses wherein the new peer value determining step comprises a step of passing the new reference value through related proxy objects that are related to the bi-directional relationship [Fig 5, 400, 410, col 6, lines 39-53]

Claim 11:

Kevner discloses wherein the new peer value contains a collection of reference values which is determined based on the new reference value [Fig 5, 400, 410, col 6, lines 39-53]

Claim 12:

Kevner discloses wherein the new reference value represents addition, removal or change of a reference value [inherent in main MOS object includes a list of pointers]

Claim 14:

Kevner discloses wherein the setting step sets a new peer value by replacing an old reference value with the new peer value [inherent in main MOS object includes a list of pointers]

Claim 15:

Kevner discloses determining, using one or more of the proxy objects, another new peer value to be set in a new peer object which is referenced by the new reference value set for the selected object; and setting another new peer value to a proxy object created for the new peer object [inherent in main MOS object includes a list of pointers]

Claim 16:

Kevner discloses determining, using one or more of the proxy objects, an updating reference value for a related object that is related to the selected object through one or more original or new bi-directional relationships; and setting the updating reference value in a proxy object created for the related object [inherent in main MOS object includes a list of pointers]

Claim 17:

Kevner discloses wherein the updating reference value determining step and the updating reference value setting step are repeated for all related objects so as to maintain bi-directional relationship integrity [Fig 5, 400, 410, col 6, lines 39-53]

Claim 18:

Kevner discloses wherein the updating reference value determining step comprises a step of passing the new reference value through related proxy objects that are created for the related objects [Fig 5, 400, 410, col 6, lines 39-53]

Claims 1, 3-12 and 14-18 are rejected under 35 U.S.C. 102(b) as being anticipated by US Pat No 5, 903,725 issued to Colyer (hereafter Colyer).

Claim 1:

Colyer discloses:

Art Unit: 2171

- receiving bi-directional relationship information indicating interrelation between objects having one or more bi-directional relationships [Fig 8 and col 13, lines 19-52];
- creating proxy objects [Fig 8, item 449] based on the bi-directional relationship information for selected bi-directional relationship objects having bi-directional relationships, wherein the proxy objects have knowledge regarding a host object [object server per Fig 8 item 313] to which it belongs and one of [or] more peer objects with which the host relates through a bi-directional relationship;
- receiving a new peer value to be set in a selected object relating to a bi-directional relationship; [col 17, lines 20-35]
- determining, using one or more of the proxy objects, a new peer value to be set for a peer object which has the bi-directional relationship with the selected object; [col 7, lines 20-35]
- setting the new peer value in a proxy object created for the peer object so that an associated new peer object has a bi-directional relationship with the peer object without a developer of the object model having to ensure all associated references are maintained [alternate pointer to relocated target objects per [col 7, lines 20-35]
- wherein the bi-directional relationship is managed so that pairs of corresponding bi-directional pointers get updated together [Fig 8, step 530]

Claim 3:

Colyer discloses wherein the bi-directional relationship information receiving step receives the reference value information from a data storage in which data corresponding to the objects is stored [Fig 8 and col 13, lines 19-52]

Art Unit: 2171

Claim 4:

Colyer discloses wherein the bi-directional relationship information receiving step receives the reference value information from a new object that is newly created by a user [Fig 8 and col 13, lines 19-52]

Claim 5:

Colyer discloses wherein the bi-directional relationship information receiving step receives the reference value information that includes a collection of reference values for a bi-directional relationship object which references many peer objects [abstract] Claim 6:

Colyer '725 discloses wherein the proxy object creating step creates proxy objects of unidirectional peer relationships that combined comprise bi-directional relationships [Fig 8 and col 13, lines 19-52].

Claim 7:

Colyer discloses wherein the proxy object creating step creates a proxy object for each of a pair of one-to-one unidirectional peer relationships that form a one-to-one bi-directional relationship [Fig 8 and col 13, lines 19-52]

Claim 8:

Colyer discloses wherein the proxy object creating step creates a proxy object for each of a one-to-many unidirectional peer relationship and one-to-one unidirectional peer relationships that form a one-to-many bi-directional relationship [Fig 8 and col 13 lines 19-52].

Claim 9:

Art Unit: 2171

Colyer discloses wherein the proxy object creating step creates a proxy object for each of uni-directional one-to-many peer relationships that form a many-to-many bi-directional relationship [Fig 8 and col 13, lines 19-52]

Claim 10:

Colyer discloses wherein the new peer value determining step comprises a step of passing the new reference value through related proxy objects that are related to the bi-directional relationship [Fig 8 and col 13, lines 19-52]

Claim 11:

Colyer discloses wherein the new peer value contains a collection of reference values which is determined based on the new reference value [Fig 8 and col 13, lines 19-52].

Claim 12:

Colyer discloses wherein the new reference value represents addition, removal or change of a reference value [Fig 8 and col 13, lines 19-52]

Claim 14:

Colyer discloses wherein the setting; step sets a new peer value by replacing an old reference value with the new peer value [col 7, lines 20-35] Claim 15:

Colyer discloses determining, using one or more of the proxy objects, another new peer value to be set in a new peer object which is; referenced by the new reference value set for the selected object; and setting another new peer value to a proxy object created for the new peer object [col 7, lines 20-35].

Claim 16:

Colyer discloses determining, using one or more of the proxy objects, an updating reference value for a related object that is related to the selected object through one or more original or new bi-directional relationships; and setting the updating reference value in a proxy object created for the related object [col 7, lines 20-35].

Claim 17:

Colyer discloses wherein the updating reference value determining step and the updating reference value setting step are repeated for all related objects so as to maintain bi-directional relationship integrity [Fig 8 and col 13, lines 19-52].

Claim 18:

Colyer discloses wherein the updating reference value determining step comprises a step of passing the new reference value through related proxy objects that are created for the related objects [Fig 8 and col 13, lines 19-52].

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kevner in view of US Pat No 5,717,917 issued to Munakata (hereafter Munakata).

Claim 13:

Kevner discloses the elements of claim 1 as noted above.

Kevner fails to disclose wherein the setting step sets a value null when the determining step determines to remove the bi-directional relationship.

Munakata discloses wherein the setting step sets a value null when the determining step determines to remove the bi-directional relationship.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kevner to include wherein the setting step sets a value null when the determining step determines to remove the bi-directional relationship as taught by Munakata.

The ordinarily skilled artisan would have been motivated to modify Kevner per the above for the purpose of providing a method of disconnecting the bi-directional link [col 4, lines 28-36]

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Colyer in view of Pub No US 2003/0056195 issued to Hunt (hereafter Hunt).

Claim 2:

Colyer discloses the elements of claim 1 as noted above.

Colyer fails to disclose receiving object model meta-data defining relationships between objects in the object model; and retrieving reference value information that represents reference values indicating current peer objects for the bi-directional relationships.

Hunt discloses receiving object model meta-data defining relationships between objects in the object model; and retrieving reference value information that represents reference values indicating current peer objects for the bi-directional relationships [abstract].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Colyer to include receiving object model meta-data defining relationships

between objects in the object model; and retrieving reference value information that represents reference values indicating current peer objects for the bi-directional relationships as taught by Hunt.

The ordinarily skilled artisan would have been motivated to modify Colyer for the purpose of providing a method and apparatus for automating generation of object oriented code for an object and thus improving the speed and accuracy of code generation [paragraph 0004]

Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Colyer in view of US Pat No 5,717,917 issued to Munakata (hereafter Munakata)

Claim 13:

Colyer discloses the elements of claim 1 as noted above.

Colyer fails to disclose wherein the setting step sets a value null when the determining step determines to remove the bi-directional relationship.

Munakata discloses wherein the setting step sets a value null when the determining step determines to remove the bi-directional relationship [col 4, lines 29-40].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Colyer to include wherein the setting step sets a value null when the determining step determines to remove the bi-directional relationship as taught by Munakata.

The ordinarily skilled artisan would have been motivated to modify per the above for the purpose of providing a method of disconnecting the bi-directional link [col 4, lines 28-36]

Response to Arguments

Applicant's arguments filed 5/24/2004 have been fully considered but they are not persuasive.

Applicant states on page 6, "In contrast, the present invention discloses a bi-directional link between objects defined within an object-oriented programming system and a technique which ensures that pairs of corresponding bi-directional pointers get updated at the same time (see FIG. 4A and page 9, lines 12-31 of the instant application)."

Examiner is not persuaded. Examiner maintains that the following disclosure by Colyer, column 7, lines 19-51 is pertinent:

FIG. 8 shows a first embodiment of the invention in which there is a **bi-directional link** between the server and its clients. When the server restarts after a malfunction, it contacts all of the clients which were connected to it and tells them to refresh their proxy objects. The client application 48, proxy object 449, **proxy register object 155** and ORB 50 are described earlier with reference to the client address space 53 in FIG. 4. The server 313, **target object 51**, name server 317 and ORB 52 are described earlier with reference to the server address space 54 in FIG. 2. Referring to FIG. 8, at step 510, the server 313 informs each of its client applications 48 that it has restarted following a malfunction. In FIGS. 8 and 9 only a single client application 48 is shown for simplicity, but there may in practice be one or more client applications 48. At step 520, the client application 48 requests the proxy register object 155 to refresh all proxy objects 449 for target objects 51 located in the remote server 54. **At step 530, the proxy register object 155 requests all of the proxy objects 449 for target objects 51 located in the server 54 to refresh themselves.** At step 540 each proxy object 449 contacts the remote name server 317, passing the remote object name 455 as a parameter, asking for an updated memory location of the remote object 51. At step 550, if the object is a persistent object, the name server 317 locates the target object 51 with the name which was passed to it. If the object is not a persistent object, then the name server 317 creates the object. At step 555, the name server 317 returns the new memory location of the remote object 51 to the proxy object 449 located in the client address space 53. At step 560, the proxy object 449 sets the validity flag 459 to false, updates its alternate proxy pointer 457 to point to the newly supplied memory location of the remote object 51.

Examiner maintains the following:

Colyer's proxy register object 155 reads on the claimed host object,

Art Unit: 2171

Colyer's target object 51 reads on the claimed peer object and

Colyer's proxy objects 449 read on the claimed proxy object.

Colyer's bi-directional link reads on the claimed bi-directional link.

Colyer's step 530 which requests the proxy register object requests the target object to refresh themselves reads on the claimed bi-directional pointers get updated at the same time.

However, in order to reduce potential arguments, examiner provides additional supra new rejection which shows that the claimed invention is anticipated by Kevner.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Etienne LeRoux whose telephone number is (703) 305-0620.

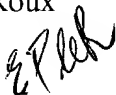
The examiner can normally be reached on Monday – Friday from 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Safet Metjahic, can be reached on (703) 308-1436.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Etienne LeRoux

8/17/2004



SAFET METJAHIC
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100